Turtle Mountain Conservation District Management Plan

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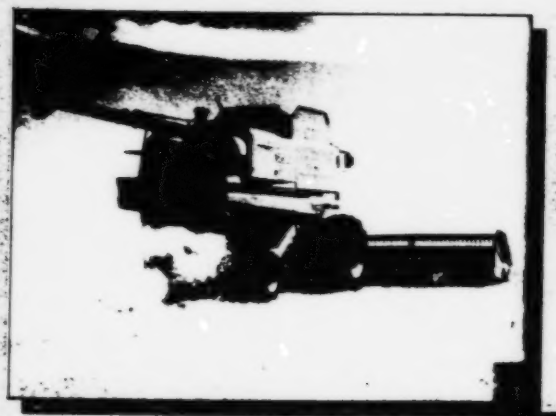
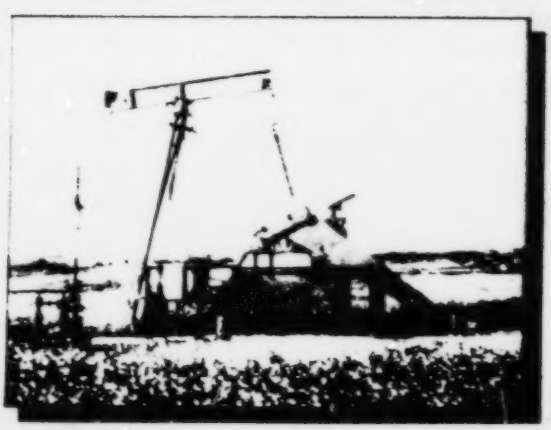


Proposed 20 Year Plan 1987-2007



Manitoba Natural Resources

Conservation District Authority

Resource Management for Our Community

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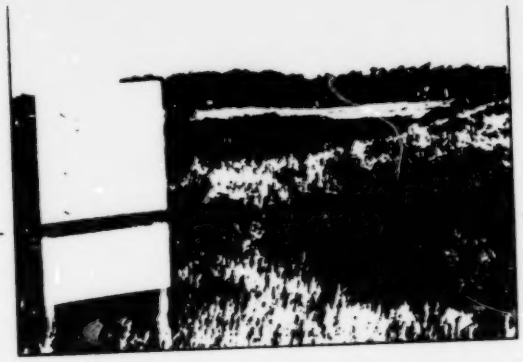


Deloraine
July 1987

Dear Resident

Thanks to your comments and ideas, we are now close to completing a Management Plan for the District. This is a draft version of the plan, based on your responses to the Background Report.

We're circulating this draft plan throughout the District, just as we circulated the Background Report last November.

When you read it over, ask yourself if we are on the right track. Are the projects we are proposing over the next 5 years in keeping with the needs of the District? Are we proposing to make the program grow too fast or are we being too cautious? Is the 20-year vision reasonable in light of your expectations for the District in the long term?

Let us know your answers to these questions, and any concerns or suggestions you have, the same way you let us know when you were commenting on the Background Report. For more information on how to get involved, see the last two pages of this booklet.

You'll notice we've focussed on proposed programs for 1988 to 1992, less so on the next 15 years to 2007. We're no better than anyone else at crystal ball gazing. But we have tried to give you a big picture of where we think the District should be headed for the next 20 years and some idea of how we think it can get there.

Your response to the Background Report was invaluable. We hope you will be just as thorough in your review of this Draft Plan so that we have enough feedback to prepare a final Management Plan that reflects the needs and aspirations of all of us and serves the District well in the years to come.

Sincerely,

Lloyd Bolduc

Lloyd Bolduc
Chairman,
Turtle Mountain Conservation District

Highlights

Proposed Total Budget (1988/1992) $2.4 Million

Proposed Spending in % of Boards 5 Year Budget

The Board proposes a program budget of $2.4 million over the next 5 years, starting with $419,500 in 1988 and gradually increasing to $557,200 in 1992. The rate of increase proposed represents an annual growth rate of about 8%, or 4% after inflation.

Funding for the 5-year budget would be covered mainly by the Provincial Grant, which would contribute $1.4 million. Municipal levies would account for an additional $522,000 over the 5-year interval, and other sources are expected to make up the remaining $478,000.

Just over $1.4 million of the total 5-year budget — about 60% — would cover programs in agriculture and water resources, reflecting a district-wide consensus that these areas are of critical importance and merit funding accordingly.

Proposed programs in agriculture include $272,000 to encourage local farmers to practice residue farming, and $135,000 for a streamlined version of the Forage Seed Assistance Program. In the water resources category, major spending has been proposed on grassed waterways projects ($370,000), on erosion check structures and other on-farm water management projects ($270,000), and on completing a handful of large and small water storage projects ($275,000).

The remaining $1 million of the 5-year budget would cover programs in conservation education, other resources, and administration. Key conservation education programs include setting up a project in cooperation with the International Peace Garden, and assistance to schools in acquiring books and equipment for teaching conservation education. Most of the funding for Other Resources has been earmarked for habitat development and protection, with the remainder for developing small recreation projects.

These and other proposed projects are discussed in detail later on so that you can assess their suitability and give us your comments and suggestions on them. They are still in the proposal stage.

In 1992, the Management Plan that develops from your review of these proposals will be considered again as part of a standard 5-year review process, and a new set of proposals developed for public review and comment. Once the plan is approved, any changes will be reviewed publicly and with local councils. We are also considering an annual report to keep you informed.

Over the next 20 years, the Board proposes to focus on soil erosion, water management, and conservation education. Wildlife habitat programs will also be important. But these directions and focal points could change as we enter the 1990's and beyond.

Past and Future Priorities

This chart shows what the Board's priorities have been for the last 7 years, and what the Board proposes in priorities over the long term, to the year 2007.

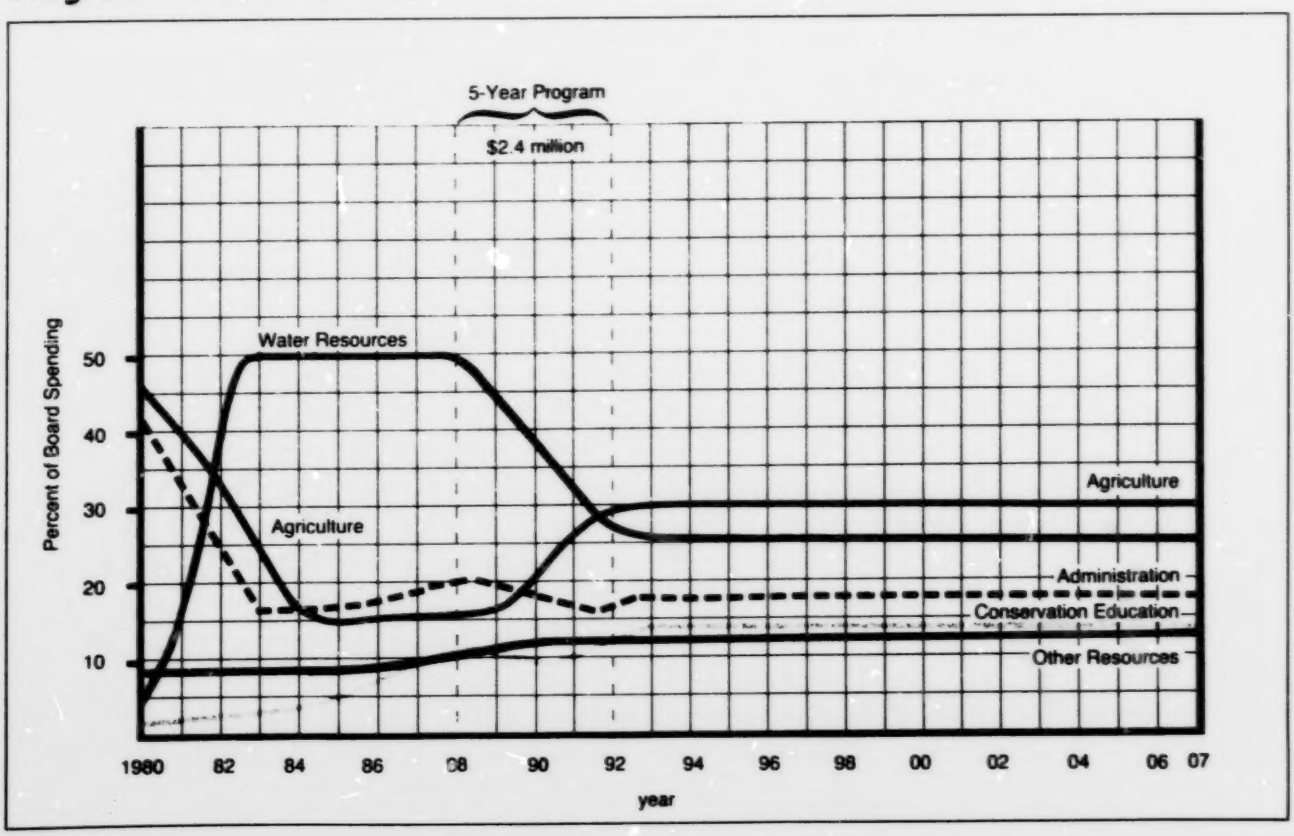
Major Water Resources Projects Completed
Over the last 7 years, much of the Board's budget was spent completing several expensive water resources projects such as the Adair Dam and over 85 miles of grassed waterways.

Now that many of the Board's program objectives in this category have been met, the Board proposes to reduce spending on water resources over the next 5 years, with a target of just over 26% on water management in the 1992 Program.

More Funding Proposed for Agriculture Programs
Over the next 5 years, the Board proposes to substantially increase spending on agricultural programs until they constitute about 30% of the overall Board budget in the long term. This amounts to a reversal of a trend that saw Board spending on agricultural programs drop from a high of 45% in 1980 to a low of 15% in 1986. We did this to allow a greater share of the budget for water resources programs. Now that this is complete for the most part, we propose to put more emphasis on agricultural programs.

55% to Soils and Water
Proposed shifts in spending on water resources and agricultural programs are designed to bring both programs more into balance. Over the long term, the Board proposes to commit roughly 55 to 60% of its budget to these two priority areas.

Program Trends 1980-2007



How Fast Should The Program Grow?

8% Growth Proposed • 1982 to 1992

Before making a major purchase like a car or tractor, most of us decide in our own minds roughly how much we are prepared to pay before we start looking.

The Board went through this very exercise before writing the Draft Management Plan. Based on your responses to the Background Report, we had a fair idea of District goals and priorities. But we wanted to come to some sort of agreement on a reasonable price tag for achieving the goals, and on how much the price tag should go up each year, to avoid proposing a whole range of ambitious projects that the District simply couldn't afford.

Given that the District program is currently budgeted at $380,000 for 1987, how fast should the program grow over the next 5 years?

After weighing the options opposite, we estimated that the program should grow at the rate of 8% a year. Taking inflation into account, that means a real annual growth rate of about 4%.

We are therefore proposing Option 2 for the 5-year program, because it would mean a growth rate of 8%. Such a growth rate:

- responds adequately to community priorities and expectations
- allows the Board to expand such programs as Conservation Education
- has minimal impact on local taxes
- can be managed by the Board.

Public Response to the Background Report - Overview

The proposals advanced in this publication reflect in large part the responses we received from public and government reviews of the Background Report which was circulated in the District during the winter.

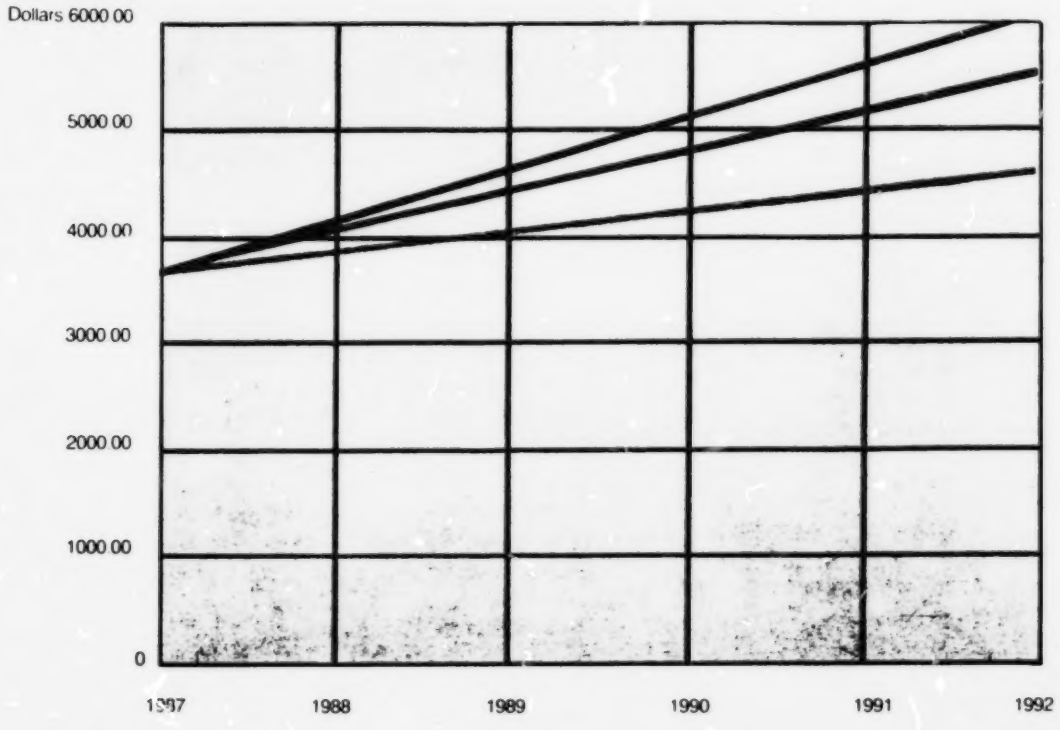
The report was distributed to all households in the District, all municipal councils, special interest groups such as wildlife associations, and all government departments and branches that might have an interest. We also held special meetings and workshops with councillors, special interest groups, and our sub-district committees, and hosted four open houses, at Medora, Deloraine, Waskada, and Boissevain.

The Board's programs generally drew a very positive response: however, we were asked to place more emphasis on areas such as wildlife habitat and conservation education.

We felt that there was a general community support for a moderate expansion of the program, reflecting our proposed growth rate of 8%.

Agricultural issues — specifically the erosion of soils by wind and water, and salinity — proved to be important to virtually everyone in the District. Crop water shortages and proper water management were also given high priority. And the community made it clear that other resources and conservation education are key to the long term quality of life we enjoy in the District and must not be neglected.

Options for Growth



4% GROWTH

This option would see the Board program grow from $380,000 in 1987 to about $462,000 in 1992. Although this looks as if the program would expand, in real terms, once 4% inflation is taken into account, the actual expansion of the program would be zero.

8% GROWTH

This option would see the program growing from $380,000 in 1987 to about $558,000 in 1992. Real growth, once 4% inflation is taken into account, would be about 4%. Such a growth rate would provide for a moderately expanded program which the Board feels responds adequately to District needs without having a major impact on local financial resources.

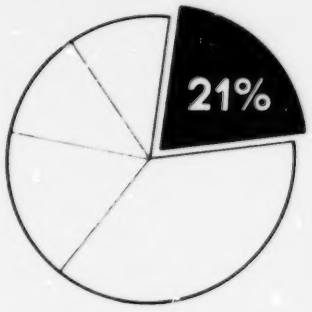
10% GROWTH

Under this option, the Board program would grow from $380,000 in 1987 to about $612,000 in 1992. Once 4% inflation is taken into account, real growth would be about 6%. Although this option provides for a substantially expanded program, it would stretch Board administrative support to the limit and would likely result in a major increase in the municipal levy — something we want to avoid right now.

Agriculture

Proposed Programs 1988-1992

Land Management	$272,000
Forage Seed Assistance	$135,000
Gully Stabilization	$ 66,000
Shelterbelts	$ 42,000
TOTAL	$515,000



Proposed spending on agricultural programs over the next 5 years represents 21% of the Board's budget.

Land Management

Land management is the most important part of the Board's agriculture program, accounting for about 53% of total program spending.

Residue Farming

We consider that residue farming — the management of plant residues for year-round protection of the soil surface — is one of the most effective ways to control wind and water erosion and preserve moisture.

The Board proposes an incentive program to promote and encourage residue farming. Some program options we are now considering include:

- acreage payment
- reduced equipment rentals
- herbicide assistance.

We propose to endorse the Manitoba Agriculture Soil Management Recommendations for Erosion Control and Salinity listed on pages 10 and 11, and to develop programs to assist landowners in meeting the Guidelines.

Rotational Grazing

It is commonly believed that soil erosion affects only cultivated lands. However, there is plenty of evidence in the District of soil erosion and lost productivity resulting from improper pasture management.

In response to this problem, we propose to set up at least one rotational grazing demonstration project in the District over the next 5 years.

Forage Seed Assistance

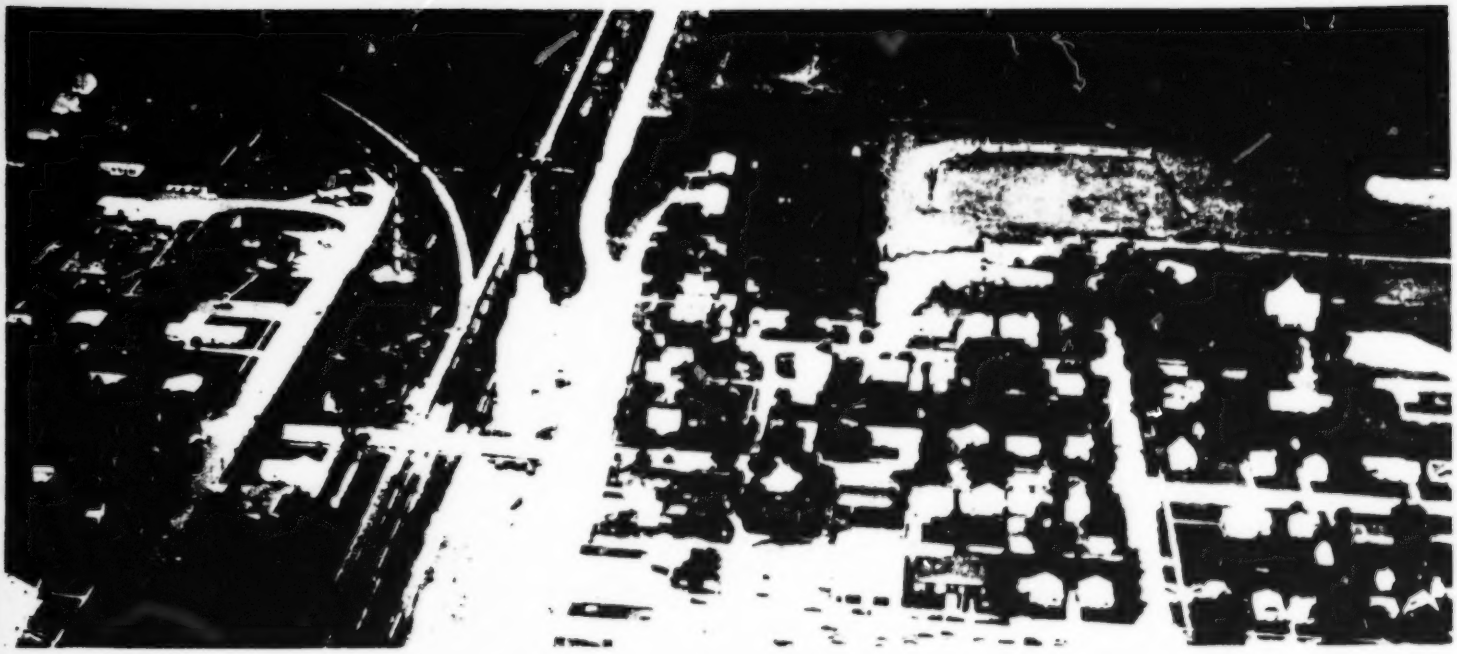
The Board proposes to continue its Forage Seed Assistance Program over the next 5 years, but develop new eligibility criteria. Various mixtures of forage seed would be provided, with erosion and salinity prone soils receiving priority. The program would be monitored yearly.

Gully Stabilization

The Board proposes to continue its cost-shared Gully Stabilization Program as well as its current focus on repairing eroded gulleys on agricultural land.

Shelterbelts

We propose to continue the Shelterbelt Program at current levels — about 6 miles a year.



Proposed 5-Year Program — Agriculture

	1988	1989	1990	1991	1992	TOTAL
Land Management	12,000	16,000	49,000	80,000	115,000	272,000
Forage Seed Assistance	30,000	30,000	25,000	25,000	25,000	135,000
Gully Stabilization	12,000	12,000	13,000	14,000	15,000	66,000
Shelterbelts	7,500	8,000	8,000	8,500	10,000	42,000
% of Board Total Program	15	15	20	25	30	21
SUB-TOTAL	61,500	66,000	95,000	127,500	165,000	515,000

Public Response to the Background Report - Agriculture

The Board should give very high priority to land management, to reduce the adverse effects of wind and water erosion and salinity. This was the major finding to emerge from a review of community and government reviews of the Background Report.

Most people agreed that landowners, local municipalities and planning districts, and the Turtle Mountain Conservation District must accept the major responsibility to ensure wise stewardship of our soils. More cooperation is needed between these parties, particularly to maintain vegetation along the escarpment, promote residue farming, and encourage shelterbelts where these are effective.

The Forage Seed Assistance Program was seen as a good, on-going program, but current spending may be too high. Some reviewers suggested that the program be targetted to problem areas and monitored closely.

The proposed Chemical Assistance Program to promote effective trash management earned only a lukewarm response from local farmers.

Soil Management Recommendations for Erosion Control and Salinity

Guidelines for Landowners

Guidelines for Controlling Wind Erosion

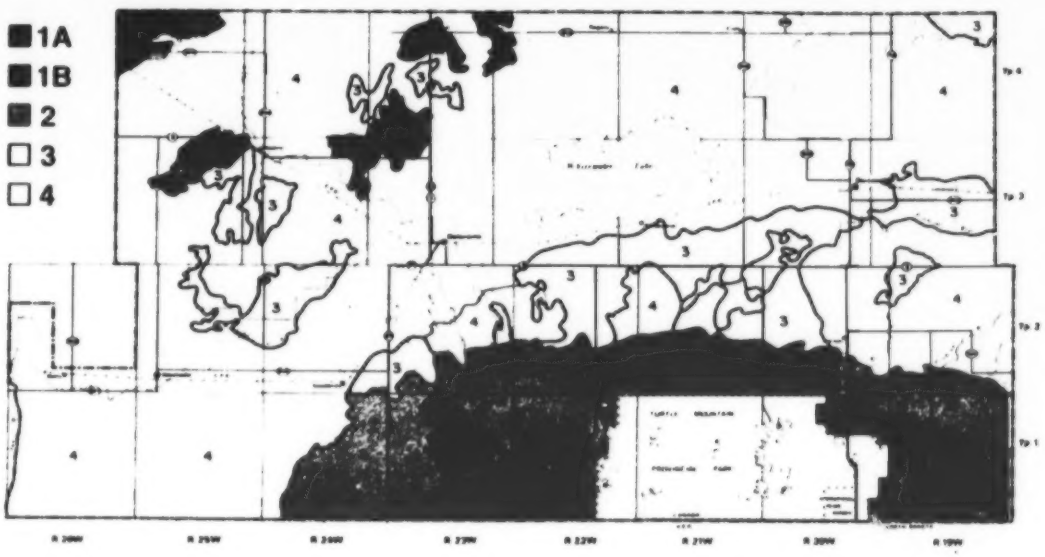
		WHEAT	BARLEY	CANOLA	FLAX	SUNFLOWER	FORAGES
Landscape Unit 1A	FLAT-RESIDUE REQUIREMENT (lbs/ac) (% Ground Cover)	~1400 (~62%)	~1400 (~62%)	~2100	1150	~3750 (~95%)	Continuous forages
	– fields should be 40 acres in size and shelterbelts to be planted 660 feet apart – continuous cropping – no summerfallow – crop residues should be distributed evenly on soil surface by using straw choppers and chaff spreaders and or by harrow operations – tillage in excess of that required to apply anhydrous ammonia is not recommended						
	RESIDUE BALED FALL TILLAGE	none	none	N A	none	N A	N A
	SPRING TILLAGE	1 cultivator operation	1 cultivator operation	N A	1 cultivator operation		
	RESIDUE NOT BALED FALL TILLAGE	– should not exceed 1 cultivator operation whether done in spring or fall		none	none	none	N A
	SPRING TILLAGE			1 cultivator operation	1 cultivator operation	1 tandem Disc operation	N A
Landscape Unit 1B	FLAT-RESIDUE REQUIREMENTS (lbs/ac) (% Ground Cover)	1200-1400 (58-62)	1200-1400 (58-62)	1900 2100	1000-1150	N A	Continuous forages
	– continuous cropping – no summerfallow or sunflowers in the rotation – crop residue should be distributed evenly on soil surface by using straw choppers and chaff spreaders and or by harrow operations – tillage in excess of that required to apply anhydrous ammonia is not recommended						
	RESIDUE BALED FALL TILLAGE	none	none	N A	none	N A	
	SPRING TILLAGE	1 cultivator operation	1 cultivator operation	N A	1 cultivator operation		
	RESIDUE NOT BALED FALL TILLAGE	– should not exceed 1 cultivator operation whether done in spring or fall		none	none	N A	
	SPRING TILLAGE			1 cultivator operation	1 cultivator operation	N A	
Landscape Unit 2	FLAT-RESIDUE REQUIREMENT (lbs/ac) (% Ground Cover)	1000-1200 (50-58%)	1000-1200 (50-58%)	1600-1900	800-1000	~5100 (~50%)	N A
	– continuous cropping – no summerfallow – crop residue should be distributed evenly on soil surface by using straw choppers and chaff spreaders and or by harrow operations – tillage in excess of that required to apply anhydrous ammonia is not recommended						
	RESIDUE BALED FALL TILLAGE	none	none	N A	none	N A	
	SPRING TILLAGE	1 cultivator operation	1 cultivator operation	N A	1 cultivator operation	N A	
	RESIDUE NOT BALED FALL TILLAGE	– any combination of tillage practices that does not exceed 2 cultivator operations		– should not exceed 1 cultivator operation whether done in spring or fall		none	
	SPRING TILLAGE					1 Tandem Disc operation	
Landscape Unit 3	FLAT-RESIDUE REQUIREMENT (lbs/ac) (% Ground Cover)	700-1000 (35-50%)	700-1000 (35-50%)	1250-1600	525-800	3150-4000 (30-50%)	N A
	– continuous cropping – no summerfallow – crop residue should be distributed evenly on soil surface by using straw choppers and chaff spreaders and or by harrow operations – tillage in excess of that required to apply anhydrous ammonia is not recommended						
	RESIDUE BALED FALL TILLAGE	none	none	N A	none	N A	N A
	SPRING TILLAGE	1 cultivator operation	1 cultivator operation	N A	1 cultivator operation	N A	N A
	RESIDUE NOT BALED FALL TILLAGE	– any combination of tillage practices that does not exceed 2 to 3 cultivator operations		– should not exceed 1 cultivator operation whether done in spring or fall		none	N A
	SPRING TILLAGE					1 Tandem Disc operation	
Landscape Unit 4	FLAT-RESIDUE REQUIREMENT (lbs/ac) (% Ground Cover)	500-700 (25-35%)	500-700 (25-35%)	950-1250	375-525	2450-3150 (25-30%)	N A
	– continuous cropping – no summerfallow – crop residue should be distributed evenly on soil surface by using straw choppers and chaff spreaders and or by harrow operations						
	RESIDUE BALED FALL TILLAGE	– should not exceed 1 cultivator operation whether done in spring or fall		N A	– should not exceed 1 cultivator operation whether done in spring or fall	N A	N A
	SPRING TILLAGE			N A		N A	
	RESIDUE NOT BALED FALL TILLAGE	– any combination of tillage practices that does not exceed 3 cultivator operations or 1 tandem disc operation plus 1 cultivator operation	– should not exceed 1 cultivator operation whether done in spring or fall			none	N A
	SPRING TILLAGE					1 Tandem Disc operation	

WATER EROSION POTENTIAL RISK MAP (UNDER BARE COVER CONDITIONS)

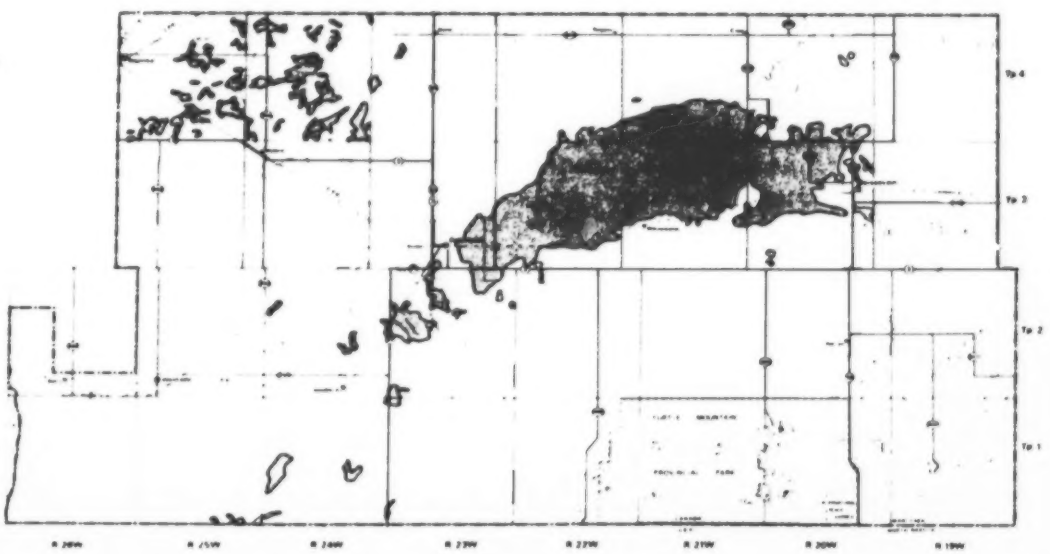
UNIT NO.	CODE	RATING	% SLOPE
1A		SLIGHT	0-2
1B		SEVERE	13 +
2		VERY HIGH	7
3		HIGH	2-5
4		SLIGHT	0-2

WIND EROSION POTENTIAL RISK MAP (UNDER BARE COVER CONDITIONS)

UNIT NO.	CODE	RATING	% SLOPE
1A		SEVERE	0-2
1B		SEVERE	13 +
2		VERY HIGH	7
3		HIGH	2-5
4		MODERATE	0-2



SOIL SALINITY



Guidelines for Controlling Water Erosion

Landscape Unit	
2, 3	Areas characterized by ravines should remain in native vegetation.
1B	Areas characterized by 13% and greater slope should be continuous forages
2 and 3	Areas characterized by 7% and 2 to 5% slope should be in continuous cropping with no summerfallow in the rotation. Wind erosion control recommendations and practices should be used for water erosion.
4 1A	Wind erosion control recommendations and practices apply — water erosion in these areas is not a major soil problem — if the soils are managed for wind erosion protection they will in turn be protected from water erosion.

Guidelines for Controlling Soil Salinity

Recommendations

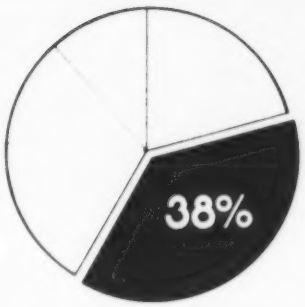
Areas within the District affected by moderate to severe salinity are shown on the Salinity Map. Salinity are dominently found in channels, level and depressional areas of the soil landscapes. Areas of soils affected by moderate salinity have conductivity values ranging from 8 - 12mmhos/cm whereas areas affected by severe salinity are characterized by valued of greater than 12mmhos/cm.

- soil affected by moderate to severe salinity should not be cultivated.
- annual crops should not be grown in areas affected by moderate to severe salinity.
- for areas affected with moderate salinity, crop mixtures composed of the following should be grown: Alfalfa, Sweet Clover, Bromegrass, Crested Wheat, Intermediate Wheat, Meadow Fescue and Reed Canary.
- for areas with severe salinity the following crops should be grown: Russian Wildrye, Slender Wheat Grass and Tall Wheat Grass.
- where they are established native grass species should be maintained and/or improved.

Water Resources

Proposed Programs 1988-1992

Grassed Waterways	$370,000
On-Farm Water Management	$270,000
Water Storage Large Projects	$195,000
Water Storage Small Projects	$ 80,000
TOTAL	$915,000



Proposed spending on water management programs over the next 5 years represents 38% of the Board's budget.

Grassed Waterways

The Board proposes to continue with its grassed waterways projects, but gradually reduce spending on them over the next 5 years, from $85,000 in 1988 to $50,000 in 1992.

To date, we have focussed on stabilizing natural channels in Zone 2 (see pages 14 and 15) to cut down on the length of time that fields adjacent to the channels are under water, following flood peaks. We have not tried building the channels large enough to eliminate overflows because such an approach is not cost-effective. Over the next 5 years, efforts will concentrate on tributaries.

On-Farm Water Management

Erosion Checks

We propose to install structures to reduce flow velocities in streams on steep slopes in Zone 1 (see pages 14 and 15). Structures will check erosion at sites and reduce downstream deposition.

Backflood Irrigation

We propose to set up at least one backflood demonstration project, within the next 5 years.

The site would probably fall in Zone 2 where there are plenty of locations that meet the criteria for backflood schemes: a reliable source of water; suitable soils; a good internal drainage system; a relatively flat area controlled by a single owner where water can be contained with a minimal amount of impoundment dyking; and an outlet channel on which delayed releases of water from the area do not aggravate downstream conditions.

Agricultural Water Management

The Board proposes to prepare a comprehensive agricultural water management plan for Zone 3, taking into account environmental as well as economic factors.

Agricultural productivity in parts of Zone 3 could probably be enhanced by installing on-farm drainage works. But before any drainage systems are installed here or anywhere else in the District, we consider it imperative that their economic and environmental benefits and costs be evaluated in light of a comprehensive water management plan, such as we are proposing to prepare.

Pothole Consolidation

We propose to set up a pothole consolidation program for regulating and retaining surface water on individual properties in Zone 3. We would identify and evaluate potential sites based on experience gained from a pilot pothole consolidation project that currently demonstrates this zero-runoff concept in the District.

Proposed sites would be evaluated to ensure that benefits to the landowner in retaining surface water were not outweighed by project costs — construction, operation, and maintenance — as well as loss of wildlife habitat.

Water Storage

Over the next 5 years, the Board proposes to complete 2 large and 10 small water storage projects. In size, these projects would be similar to the Adair Dam and the McArthur site, respectively.

There are numerous promising sites for both types of projects in the District, particularly Zone 1, and to a lesser extent in Zone 2 (see pages 14 and 15). Sites could be exploited for a range of uses, from irrigation, stockwatering, and community supply — to recreation, wildlife habitat, and runoff peak reduction.

Groundwater

We propose to work with municipalities and the Province to develop measures to protect local groundwater supplies. This stems from a concern that groundwater aquifers could become polluted through improper management of recharge areas. We may undertake small community projects to meet local needs.

Urban Flood Protection

We do not intend to undertake any flood protection projects for Deloraine or Waskada over the next 5 years, although we appreciate that this position may need to be re-evaluated in the future.

Recreational Waters

There was some disagreement among residents over the development and use of certain recreation waters in the District. The Board's primary concern is the maintenance of high water quality and adequate water levels. We will not support future developments or projects that could adversely affect these aspects of our recreational waters.

Proposed 5-Year Program — Water Resources

	1988	1989	1990	1991	1992	TOTAL
Grassed Waterways	85,000	90,000	80,000	65,000	50,000	370,000
On-Farm Water Management	20,000	93,000	—	83,000	74,000	270,000
Water Storage — Large	100,000	—	95,000	—	—	195,000
Water Storage — Small	—	15,000	15,000	30,000	20,000	80,000
% of Board Total Program	49	45	40	35	26	38
SUB-TOTAL	205,000	198,000	190,000	178,000	144,000	915,000

Public Response to the Background Report - Water Resources

The community generally came out in support of District water storage projects, both large and small. Some questions were raised over locations for large projects and who would manage reservoirs once they were built. Not surprisingly, most reviewers felt that crop water shortages were a local issue.

A District agricultural drainage program did not receive widespread support, although people from several areas, particularly north of Whitewater Lake, expressed strong interest. Most agreed that any water management program must be comprehensive, consider long-term effects, and win the full support of landowners.

No concerns were voiced over the absence of plans for flood control at Deloraine or Waskada. Reviewers generally agreed that little could be done at present to regulate the levels of Whitewater Lake to benefit agriculture. The proposal for a backflood irrigation program met with little reaction, although there was some support for a demonstration project. Runway stabilization was generally viewed as a good program that should continue.

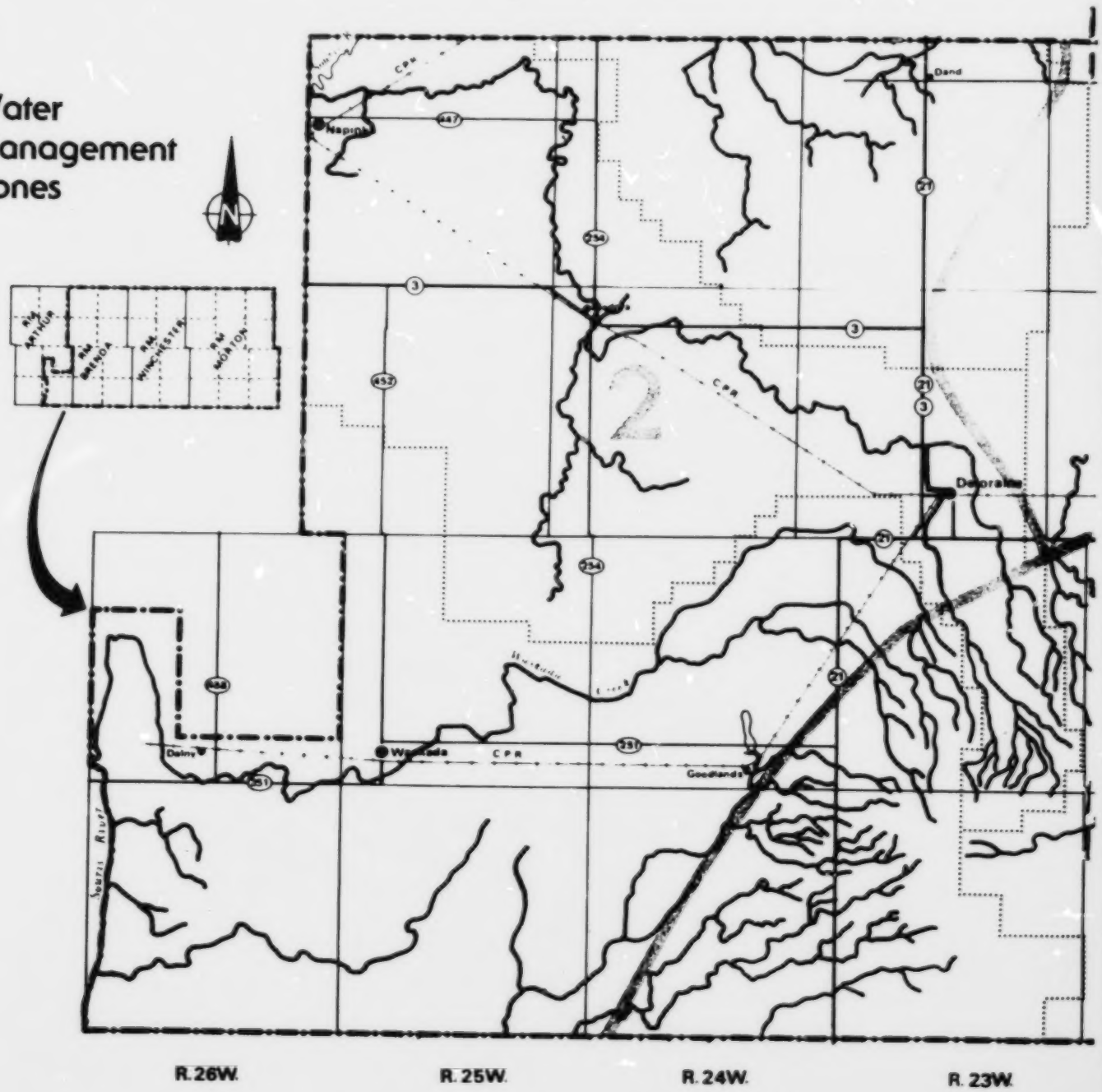
Zone 1

The major surface water hazards in this zone are sheet and gully erosion from overland flow and channel erosion on natural streams. Flooding of agricultural land is not a problem in this zone because of steep slopes and good natural drainage.

Zone 2

Parts of Deloraine and Waskada are susceptible to periodic urban flooding. Overflows from streams are the main cause of flooding of agricultural land. Localized depressions are sometimes flooded in areas without natural drainage outlets.

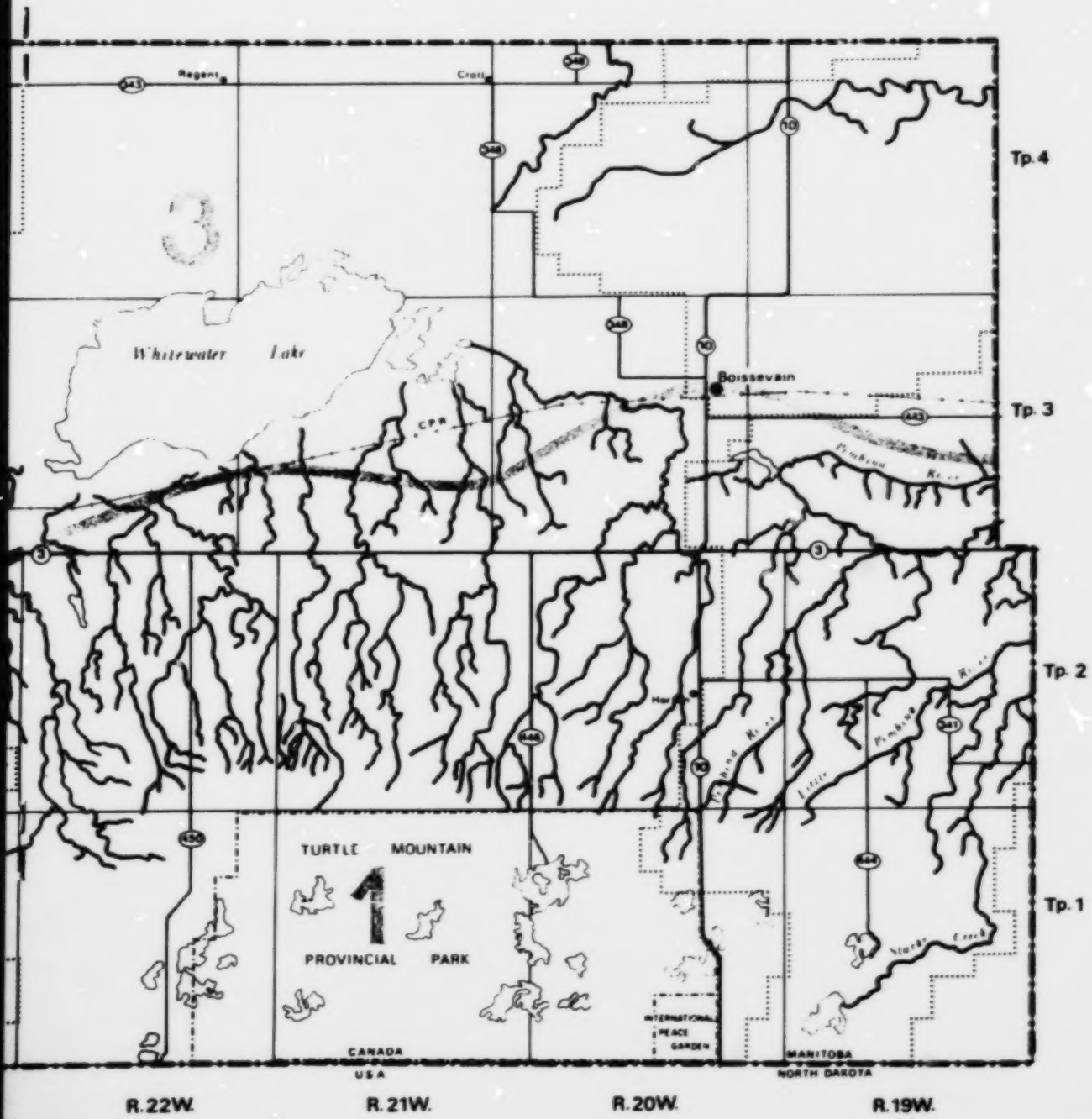
Water Management Zones



Zone 3

Lands in this zone are marked by poor natural drainage and numerous shallow depressions or temporary wetlands, many of which have been converted to farmland. Municipal road-building and individual drainage projects have complicated an already complicated surface water situation.

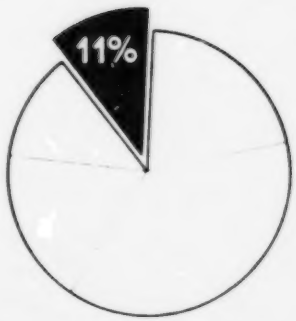
During wet periods, many acres of cultivated land may be flooded. Whitewater Lake, which has no surface outlet, enlarges dramatically during wet periods and floods surrounding lands that are used for agriculture during normal or dry periods.



Conservation Education

Proposed Programs 1988-1992

Extension	$109,000
Natural Areas	$ 82,000
Publications Equipment	$ 74,000
TOTAL	$265,000



Proposed spending on conservation education programs over the next 5 years represents 11% of the Board's budget.

Extension Program

The Board proposes to:

- expand Grade 6 Conservation Day to include local schools outside the District
- work with local school boards for more conservation education in the school curriculum. We also propose to consult the Department of Education for ideas.
- sponsor an annual Grade 12 student competition for an award-winning conservation demonstration project in the District. The Board is considering a $1000 annual award.
- sponsor a conservation workshop for local teachers
- undertake a pilot adult education program in resource management
- make annual presentations on resource management in District schools, when requested
- provide displays on conservation within the District
- support Project WILD in the District
- explore the feasibility of introducing conservation education and ecology programs in local summer camps
- undertake soil and water management demonstration projects.

Natural Areas

The Board proposes to:

- acquire local properties suitable for conservation education. A site on Whitewater Lake is a long-term objective.
- maintain and develop existing sites
- support the Provincial Ecologically Significant Areas Program
- initiate, in cooperation with the International Peace Garden, an education project which would include displays of local crops.

Publications/Equipment

The Board proposes to:

- increase spending on conservation books and literature for local libraries
- assist local schools in acquiring equipment for teaching conservation education.

Proposed 5-Year Programs — Conservation Education

	1988	1989	1990	1991	1992	TOTAL
Extension	19,000	20,000	21,000	22,000	27,000	109,000
Natural Areas	10,000	11,000	12,000	14,000	35,000	82,000
Publications/Equipment	12,000	13,000	14,000	15,000	20,000	74,000
% of Board Total Program	10	10	10	10	15	11
SUB-TOTAL	41,000	44,000	47,000	51,000	82,000	265,000

Public Response to the Background Report - Conservation Education

This program drew a very positive response from the community. Most people recognized the need for conservation education.

Reviewers generally came out in favour of the Board's ideas on Conservation Day, Provincial Ecologically Significant Areas, Special Programs, and Research.

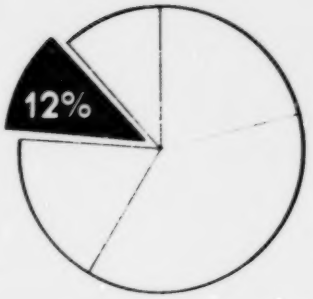
Reviewers approved the Board's choice of properties acquired to date as possible sites for conservation education and interpretation programs.

Adult education in resource management was the focus of several inquiries, including whether the Board would consider such a program and whether it might be feasible to hire an instructor to teach it at night school.

Other Resources

Proposed Programs 1988-1992

Habitat Development	$155,000
Habitat Protection	$ 87,000
Recreation	$ 36,000
TOTAL	$278,000



Proposed spending on other resources programs over the next 5 years represents 12% of the Board's budget.

Habitat Development and Protection

The Board proposes the goal of developing or protecting at least 5000 acres of fish and wildlife habitat over the next 5 years.

Projects could take advantage of opportunities offered by other Board programs such as small water storage works. Success would depend on external funding and support by other agencies, organizations, and landowners.

We estimate that with proper support, every dollar we spend would be matched by a dollar from other sources.

Recreation

We propose to develop small recreation opportunities, as required, in association with other Board projects.

Proposed 5-Year Programs — Other Resources

	1988	1989	1990	1991	1992	TOTAL
Habitat Development	25,000	29,000	30,000	31,000	40,000	155,000
Habitat Protection	2,000	15,000	20,000	25,000	25,000	87,000
Recreation	3,000	4,000	7,000	10,000	12,000	36,000
% of Board Total Program	7	11	12	13	14	12
SUB-TOTAL	30,000	48,000	57,000	66,000	77,000	278,000

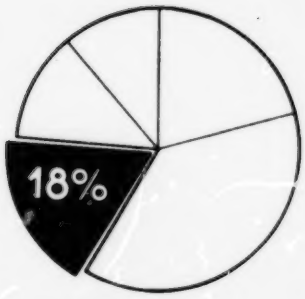
Public Response to the Background Report - Other Resources

Loss of important wildlife habitat was a major concern across the District. Many residents felt that the Board should be doing much more to promote and coordinate programs to protect and develop wildlife and fisheries habitat, particularly wetlands and locations along the escarpment. Many felt that the Board's objective of protecting 5000 acres of habitat was too low, but agreed that the Board should take a lead role in bringing outside programs into the District.

Reviewers stressed the need for a cooperative effort by landowners, rural municipalities, and the District, especially to maintain vegetation along the escarpment and preserve rights-of-way for wildlife.

It was suggested that the Board take a lead role in resolving the complex resources problems of Whitewater Lake and developing a comprehensive management strategy for it.

Administration



Proposed spending on administration over the next 5 years represents 18% of the Board's budget.

Turtle Mountain Conservation District

The Board proposes to administer District programs in accordance with the Management Plan.

An administrative charge would be included as part of total project costs in programs funded by, or cost-shared with, external agencies.

District Board

Seated: Bert Barwick, Lloyd Bolduc, Marshall Teetaert, Jack Millions (inset)

Standing: Bill Poole, Alan Ransom, Harriet McColl, Dennis Crowe

Proposed 5-Year Program — Administration

	1988	1989	1990	1991	1992	TOTAL
Administration	82,000	83,600	85,500	86,700	89,200	427,000
% of Board Total Program	20	19	18	17	16	18

Subdistrict Members

Chain Lakes
*Marshall Teetaert
David Franklin
Roy Mann
Russ Morden

Waskada Creek
*Jack Millions
Floyd Cheyne
Mac Corbett
Keith Hannah
Ken Harms
Cal Nestibo
Jim Smart
Keith Wells

Medora Creek
*Lloyd Bolduc
*Dennis Crowe
R.A. Dietrich
Jim Holden
Clint Whetter
John Dickinson

Elgin Creek — Whitewater Lake
*Alan Ransom
Gordon Holden
Roger Goethals
Archie Van Deveire

Upper Pembina
*Bert Barwick
Murray Duncan
Howard McCausland
Graeme Hicks

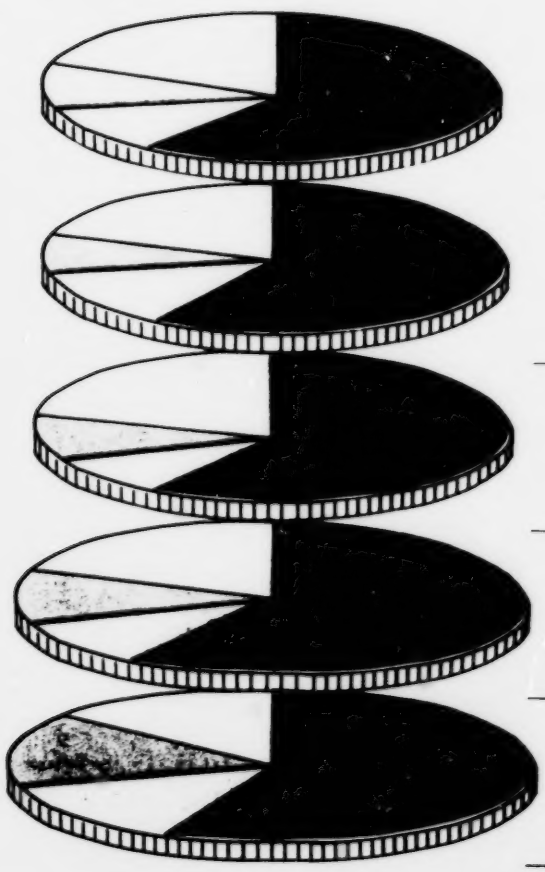
Provincial Appointee
Harriet McColl

* Chairperson and Board Member

Proposed Budget for 5-Year Overall Program

	1988	1989	1990	1991	1992	TOTAL
Agriculture	61,500	66,000	95,000	127,500	165,000	515,000
Water Resources	205,000	198,000	190,000	178,000	144,000	915,000
Conservation Education	41,000	44,000	47,000	51,000	82,000	265,000
Other Resources	30,000	48,000	57,000	66,000	77,000	278,000
Administration	82,000	83,600	85,500	86,700	89,200	427,000
TOTALS	419,500	439,600	474,500	509,200	557,200	2,400,000

Proposed Spending in Percentage of Board Budget 1988 to 1992



1988 — $419,500
- Agriculture — 14%
- Water Resources — 49%
- Conservation Education — 10%
- Other Resources — 7%
- Administration — 20%

1989 — $439,600
- Agriculture — 15%
- Water Resources — 45%
- Conservation Education — 10%
- Other Resources — 11%
- Administration — 19%

1990 — $474,500
- Agriculture — 20%
- Water Resources — 40%
- Conservation Education — 10%
- Other Resources — 12%
- Administration — 18%

1991 — $509,200
- Agriculture — 25%
- Water Resources — 35%
- Conservation Education — 10%
- Other Resources — 13%
- Administration — 17%

1992 — $557,200
- Agriculture — 30%
- Water Resources — 25%
- Conservation Education — 15%
- Other Resources — 14%
- Administration — 16%

Funding

The Board proposes to gradually increase the funding for its overall program from $419,500 in 1988 to $557,200 in 1992. This represents a rate of increase of about 8% a year, or 4% after inflation.

Sources of funding for the program would be the Provincial Grant, local support through municipal levies, and other sources.

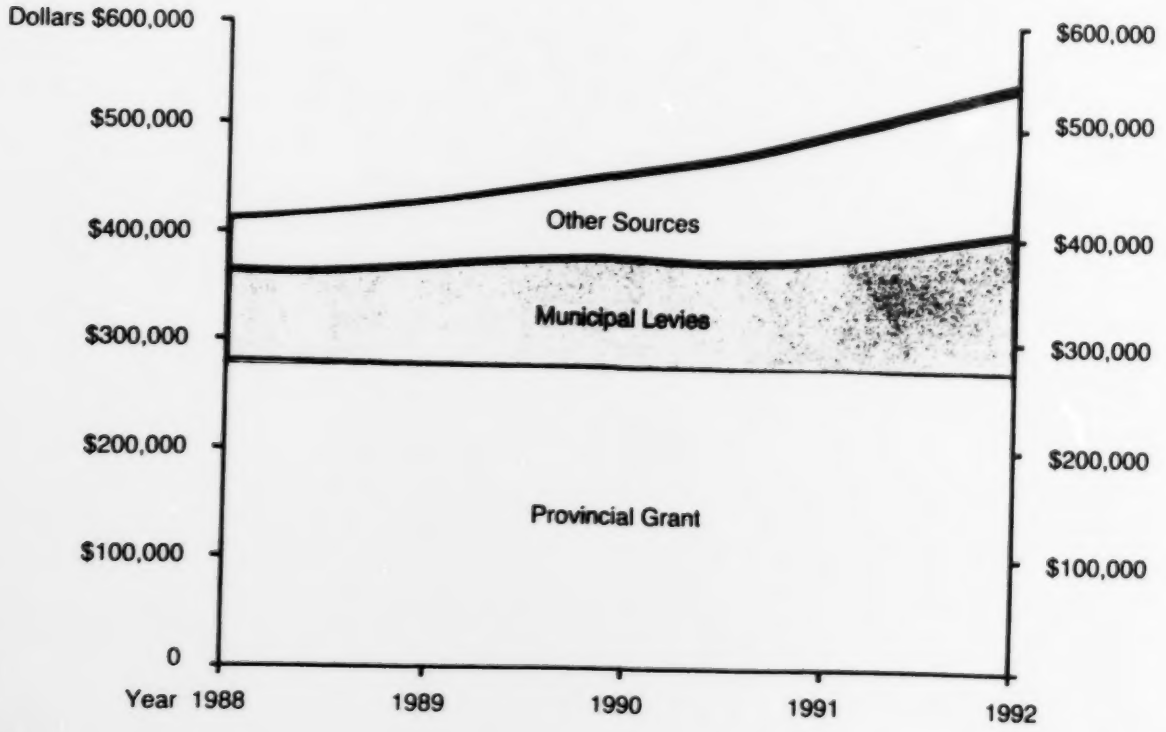
We have assumed that the Provincial Grant will remain constant at about $280,000 a year over the next 5 years.

As local support for the program grows, however, we intend to request additional Provincial Grant dollars.

Local support for the program will be obtained through municipal levies which are expected to generate $522,000 over the next 5 years. Mil rates in the District, currently at 4 mils, are projected to increase as shown in the following table. Assuming a local assessment of $18 million, these mil rates would contribute the following amounts:

	1988	1989	1990	1991	1992	5-Year Total
mil rate	5	5	6	6	7	
municipal levies	90,000	90,000	108,000	108,000	126,000	$522,000

The rest of the Board's program will be made up from external sources such as payments from benefitting landowners, special interest groups, and agencies. Funding from these other sources is expected to increase from about 12% of the budget in 1988 to about 27% in 1992, as shown below.



20-Year Vision

Board Integrated Program

The Board's goal is to ensure, over the long-term, the wise management, use and development of District soils, water, and natural resources, and to maintain or improve the high quality of life currently enjoyed by residents of the District.

Agriculture is the major industry in the District and is expected to maintain its importance into the future. Proper soil and water conservation is essential for the continued long-term viability of agriculture.

Management of all resources must be compatible with the needs and wants of District people, and take into account the environmental limitations of the District.

The Board proposes to take a leadership role in the conservation of land and water resources in the District, and will act as a catalyst on conservation issues to ensure problems are solved and opportunities developed.

The Board proposes to encourage local municipal councils and planning districts to adopt land and water use by-laws and policies consistent with Board management objectives. Consultation and cooperation with local municipalities and planning districts is a very important part of the Board's vision.

The protection of natural, cultural and historic resources will be included in the Board's program.

The Board will continue to acquire lands for interpretative/educational/conservation purposes when such acquisition supports the management plan.

The Board will seek continuing public participation in its programs, planning and decision-making.

Agriculture

The Board will promote practical land management programs to preserve topsoil for future generations.

It will work with local municipalities and landowners to maintain or increase permanent vegetative cover on erodible lands along the escarpment.

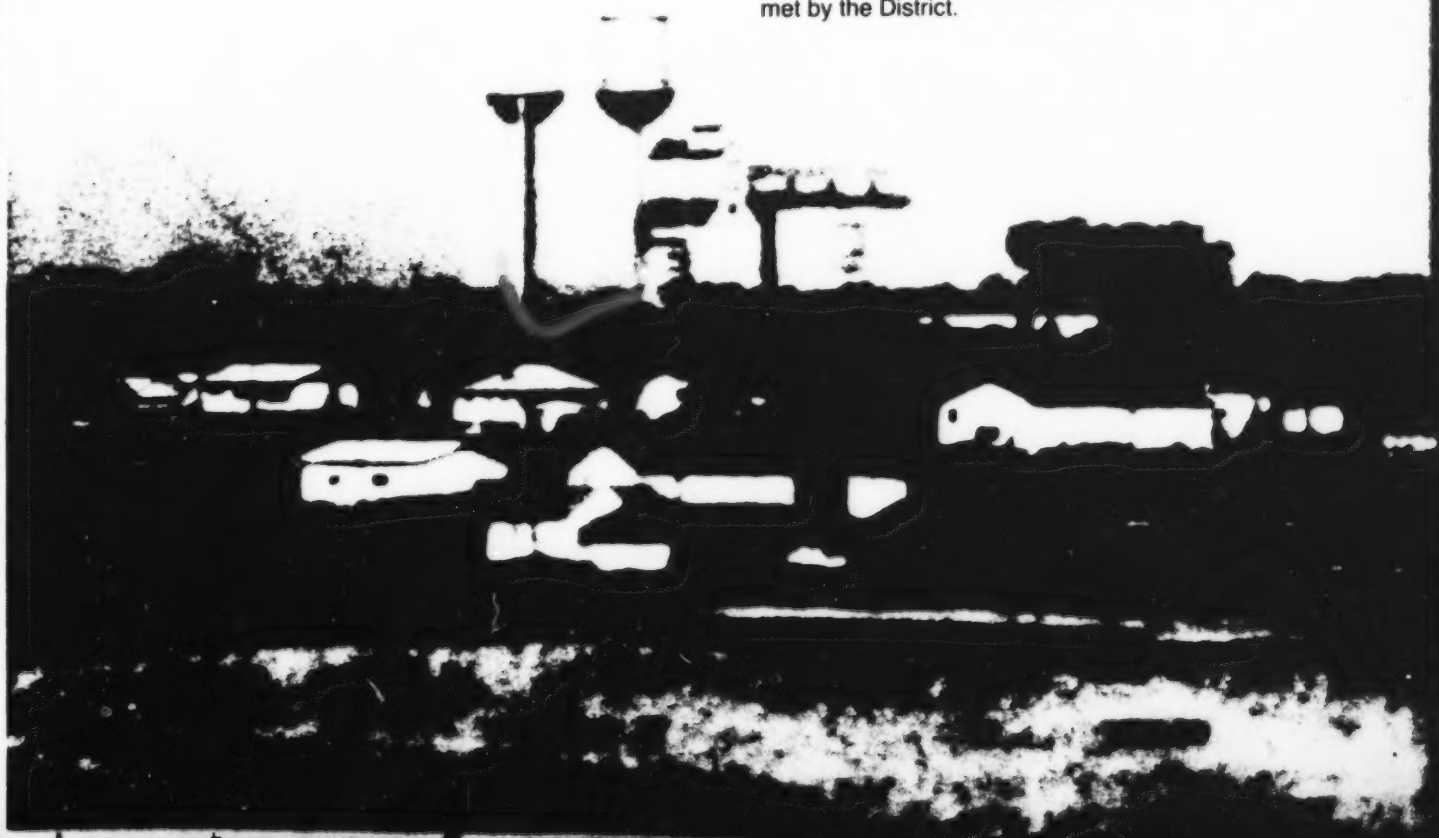
Water Resources

The Board will plan, develop and maintain safe, efficient and effective water control works necessary to achieve rational water management on a watershed basis.

Multiple use water projects should receive priority over single purpose projects.

For new water management projects, the Board will ensure that project benefits are given comparable consideration with project costs.

The Board will attempt to ensure that any surface water management projects do not adversely affect local groundwater quality or quantity. Provincial surface water and groundwater quality objectives and standards must be met by the District.



Turtle Mountain Conservation District

Groundwater management is also of concern to the Board because of widespread variations in the quantity, quality, and availability of groundwater across the District.

The Board is concerned about the possible pollution of groundwater supplies through improper management of aquifer recharge areas.

The maintenance or improvement of the quality of surface water in the District is of major concern to the Board. It is the Board's goal to ensure that the quality of the surface water resources within the District is protected such that present and future uses are not adversely affected. To this end, the Manitoba Surface Water Quality objectives will be used for guidance on the quality requirements of the various surface water uses within the District. Development should take place only in such a manner that these objectives will be met.

Conservation Education

The Board's conservation education program is designed to:

— inform the community in the conservation of land, water, and other natural resources
instill a long-term conservation ethic, particularly in our children
— keep the community informed on current conservation programs.

A conservation/interpretive/education site on Whitewater Lake is a long-term goal of the Board.

Other Resources

The Board has developed the following Management guidelines which it will attempt to follow in the implementation of its Other Resources program.

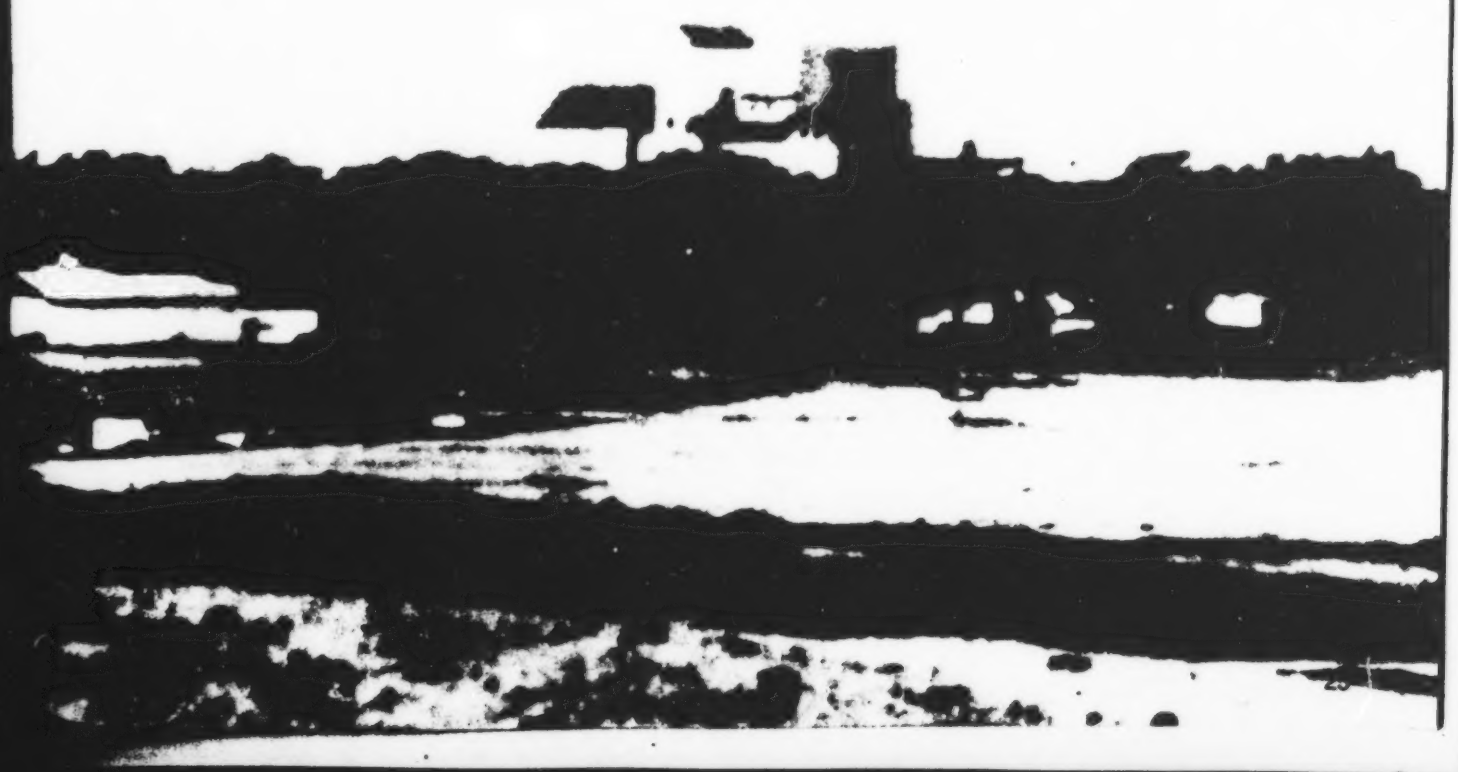
The Board will encourage and support local programs which reserve, restore or enhance wildlife habitat. Key upland areas include the escarpment and the Chain Lakes area. Wetlands are considered to be a high priority across the District.

Manitoba Habitat Heritage Program, Wildlife Habitat Canada and the North American Waterfowl Management Plan are three key agencies/programs which the Board will support. The Board will attempt to secure funding from external agencies to supplement wildlife programs.

The Board will request that rural municipalities pass by-laws restricting the breaking of non-maintained road allowances and wildlands. Certain road allowances will, on request, be seeded to forage crops, and trees or shrubs.

The Board does not intend to undertake any program to regulate Whitewater Lake levels within the next 5 years, nor will it undertake, on its own, to acquire marginal agricultural lands around the lake.

In fisheries management, the Board does not feel that it can take a leadership role but can support and encourage others to do so. It supports the priorities set out by the Manioba Fisheries Branch. Where there is potential for fisheries development to complement Board projects or priorities, such potential will be promoted and supported.



How to Get Involved

As we mentioned earlier, we need to hear from you if we are to develop a final management plan that fits our local needs.

Here are some of the ways you can give us your feedback on this draft management plan. They are just the same as they were for the Background Report.

Attending Open Houses

We are planning on holding open houses again on dates that will be published in the local papers well in advance. We will try to time the meetings so that they cause the least disturbance to farming operations.

The District Manager will also be available to make presentations to your organization or group. Call 747-2530 in Deloraine for details.

Talking to Municipal Councils

We'll be discussing the draft plan with municipal councils and local planning people. You might do the same to let them know your ideas and suggestions.

Making Presentations to the Board

If you're thinking of making a presentation to the Board, on your own behalf or on behalf of a group in the District, just give any Board member a call and we'll set a time to get together.

Call Us

If it's convenient for you to give us a call, you can reach the District office at 747-2530. Or ring up your subdistrict member.

Writing or Dropping In

You're invited to mail us your comments on the Draft Plan. The address is:

Turtle Mountain Conservation District
P.O. Box 508
Deloraine, Manitoba
R0M 0M0

If you'd like to pay us a visit, we're at:

The Municipal Building
220 South Railway
Deloraine

Once we have your comments and suggestions on this Draft Management Plan, we will use them to prepare a Management Plan for the District. We expect to complete the Management Plan by September 1987.

When the Management Plan has been completed, we will forward it to the Provincial Conservation Districts Commission and the Minister of Natural Resources for final approval, probably early this fall. And with that approval, we will have a final Management Plan for the District.

Once the final Management Plan is out, we intend to send you a summary of it as an overall guideline and reference for helping put the plan into effect.

The Turtle Mountain Conservation District

Covering just over 1000 square miles with a total land assessment of nearly $18 million, the Turtle Mountain Conservation District includes all of the R.M.'s of Brenda, Morton, and Winchester and part of the R.M. of Arthur. Boissevain, Deloraine, and Waskada are also District Members.

Topography varies from the Turtle Mountain upland to the flat expanse of Whitewater Lake basin. Soil types vary from clays and clay loams to sands. Moisture conditions frequently differ widely within the area.

Often there is not enough soil moisture available to crops during critical periods of the growing season.

While annual crop production is the dominant land use in the District, forages and livestock are important parts of our agricultural industry. Petroleum exploration and production, recreation, and service industries are also important contributors to the local economy.

With such a diverse range of conditions, resource management becomes extremely challenging.

The Draft Plan described in this brochure represents the Board's first attempt to meet that challenge.

Turtle Mountain Conservation District

The Board wishes to acknowledge that preparation of this Draft Management Plan would not have been possible without the participation of many members of the community, technical staff of the Provincial Government, and the staff of the Conservation Districts Authority.